

Birds in the Botanic Gardens, Singapore.

It is a common remark of residents in Singapore that they never see any birds here except the one popularly called the black and white robin (*Copsychus saularis*). This however must be taken as due to want of observation, for birds here are very abundant and varied. It is true that they are not on the whole as conspicuous as they would be were the country not so thickly wooded, so that they can, and do, conceal themselves very effectually. One may traverse a jungle the whole day and hardly see or hear a bird, though a careful and quiet observer by remaining patiently on the watch in a suitable spot may make the acquaintance of a number of very charming and interesting ones. As in the case of the mammals, the early morning and late evening is the best time to watch the birds. Living in the Botanic Gardens with its patches of shrubbery, woods and lakes, I get an opportunity of seeing them when all is quiet, and as many rare and beautiful ones have from time to time visited the gardens, I think a few notes on their habits may not be uninteresting to bird-lovers. The Raptores are frequent visitors, and of these the large grey and white sea-eagle (*Halietus leucogaster*) is one of the most conspicuous, often passing over or resting in the trees on its return from a day's fishing in the harbour. For many years one nested in the garden jungle and the young ones could often be seen moving about the garden when all was quiet. The nest, a huge mass of sticks, was placed in the upper branches of a big tree and quite inaccessible from the ground. Eventually it was blown down and the bird did not replace it. During the middle of the day when the coolies were away, and no one about, the birds used to fish in the lakes, and I several times found the remains of large catfish lying on the paths, fragments of their midday meal. On one occasion I found a portion of a cuttle-fish lying in the garden-jungle, which must have been brought to feed the young, from the sea, a distance of nearly four miles at least. The sea-eagle is very abundant in the harbour and

may often be seen fishing there; and it is not rare to see two birds fighting for the possession of a fish captured by one of them. Off Pangkore I have twice seen them attacked by crows, and attempting to defend themselves by turning on their sides in the air and striking with their claws. Sometimes overbalancing themselves they turn completely over, executing a kind of lateral summersault. After heavy rain they may often be seen drying their wings on the dead limb of some lofty tree, and in this way sometimes fall victims to bird-shooters.

A fine hawk which nests regularly in the garden jungle is the beautiful grey and white serpent-eagle (*Spizaetus Linnaetus*) "Lang Borek" of the Malays. The young birds are brownish in colour, but the adult has a white head and neck and grey wings, looking like a miniature sea-eagle. The nest consists of a mass of sticks on the fork of a branch in a lofty tree, and has been in use by the birds for over nine years. The birds may almost always be seen and heard about the gardens; their cry is a piercing whistle often repeated, not unlike that of the English buzzard. They seem to prey upon small birds, and perhaps snakes, but do not seem as a rule to attack chickens, but the Malays say they are very fierce and attack young monkeys.

The fine Horsfield's eagle (*Linnaetis Horsfieldi*) is not a rare visitant, but seldom stays long; one however remained for some months in the garden jungle. It is a very bold bird, and I saw one swoop four times in succession at a terrier, rising again when within a few inches of its back. Its movements were so noiseless that the dog did not notice it till it struck him with its wing as it rose. It is a great enemy to chickens, and often catches them, but it is most commonly to be seen perched on a burnt tree-stump in the fields of lalang in the interior of the island, watching for small birds. I have several times had it in confinement, but it is always restless, constantly dashing against the bars of its cage. It is a handsome bird, entirely sooty-grey in colour.

Another large dark grey owl-like hawk which stops sometimes in the gardens is *Spilornis bacha*. It is likewise an enemy to chickens, but kills also wild pigeons and other birds. I have seen it with a roller (*Eurystoma*) in its claws. The roller has a habit of sitting on the topmost twig of a tree in the evening, forming a conspicuous object and an

easy prey to the hawk. When one of these hawks settles in a tree it is immediately surrounded by a crowd of small birds, who chatter at it, although as a rule they do not take any notice of the other hawks previously mentioned.

A much rarer visitor is the charming little black and white hawk *Buza lophotes*. Indeed I have only once seen it in the gardens. It is about as big as a kestrel, with the head, neck, and wings black, with a white bar on the latter; the breast is white, and the belly white barred with brown, the tail black above and grey beneath.

The Brahminy kite (*Haliastur indus*), so common and conspicuous in the harbour, may often be seen. I have seen as many as five at once in the garden. I believe it nests in large trees near Tyersall, as young birds were seen and caught in and round the gardens, but I never found the nest. The young are dull brown in colour, and only the adults have the red wings and white head which makes them so ornamental. It lives very well in confinement.

One evening a cooly found in the gardens two small white hawk-eagles (*Nizaetus pennatus*), fighting furiously on the ground. Throwing his coat on them he caught one and bore it off to the aviary. By a mistake it was put into a cage with a large sea-eagle, but all went well till the birds were fed, when the small eagle disregarding its own piece of meat attacked the sea-eagle and attempted to rob it of its portion. The latter being much the bigger and stronger bird, caught the assailant by its wings in its claws and held it fast. The little eagle was quickly rescued and transferred to another cage where, though somewhat ruffled, it seemed quite at ease, and sat on its perch elevating its crest like a cockatoo. Next day, however, immediately after eating its meat it fell dead off its perch. A postmortem examination disclosed that the liver was extensively lacerated and other internal organs much torn. This must have been done in the first fight, as the sea-eagle never touched its body with its claws at all. It was wonderful that the bird showed such pugnacity after such severe injury.

The Asiatic sparrow-hawk (*Accipiter virgatus*), a little bird very closely resembling the English sparrow-hawk, is very common. I have watched it chasing a starling round and round the trees for some time, and have seen one dart on

a bulbul and bear it off shrieking in its claws. These birds feed also on lizards, and one was once caught in the gardens which had pounced on a chamaeleon-lizard (*Calotes versicolor*).

This list of hawks and eagles does not by any means comprise all the birds of this group to be met with in Singapore. We have also here the Goshawk (*Astur soleonsis*), the Osprey (*Pandion haliaetus*), sometimes to be seen near the coast, and some greater rarities such as the Tweeddale Buzzard, (*Pernies Tweedali*), and *Spizaetus Kieneri*, a most beautiful sepia-brown hawk with a fine crest, which it raises and lowers at intervals, and thickly feathered legs. This very rare bird was caught in the act of killing some tame pigeons, and the lady who caught it sent it to the aviary, but after it had been some time in its cage, it accidentally escaped and was seen no more.

Owls ("Burong hantu" of the Malays) are plentiful in the gardens, and are always to be heard calling at night. The great fishing-owl (*Ketupa javanensis*) hiding by day in the woods may be seen at night gliding noiselessly in search of mice over the flower-beds. I saw one flit by me once with a shrieking fruit-bat in its claws. It is called "Ketumpo Ketambi" by the Malays.

Of the smaller owls *Scops Lempigi* is probably the commonest, a small stumpy brown horned owl, which can be heard at night uttering its cry of "hoop hoop" at intervals. It is rather a bold little bird, sometimes flying into the verandah and sitting on one of the beams of the roof, or even the verandah rail, quite motionless. It appears to feed on insects for the most part, and sometimes nests on a beam in the roof of a house, which the Malays consider very lucky, though here, as almost all over the world, the appearance of the bird in or on the house, is considered as a sign of approaching death. It is called "jam-poh" by the natives.

The smaller owls never live long in confinement, but the fishing owl is easily kept and is very long-lived.

The barn-owl (*Strix flammea*), though it occurs in the Peninsula, must be very rare; and the only one I have seen was exhibited some years ago at an agricultural show in Malacca.

The owls lead one naturally to think of the Night-jar, one of which, *Caprimulgus macrurus*, is often more common than welcome, for on moonlight nights especially it keeps up its wear-

some cry of "Tock-Tock-Tock," sounding like the skimming of a stone across the ice. It is called by the Malays the "Burong Tukang Kayu," or "Carpenter bird," from its cry, and also "Burong Malas," the lazy bird, because, like the English Night-jar, it makes no nest, merely laying its eggs on the ground beneath a bush. It much resembles the English bird not only in appearance, but in its habit of suddenly sitting down on the ground, often in the middle of the road, in front of the horse when one is driving, suddenly rising and flying a few yards and sitting again till one comes up with it. During the day it hides on the ground in the bushes or fern, coming out at dusk, and taking up its position on the topmost twig of a small tree utters its cry for hours together, every now and then darting off in pursuit of a beetle or moth. Certain boughs are evidently very popular, and if the owner of the position is shot another night-jar quickly takes its place. Besides the regular cry it sometimes gives a kind of chuckle, and at times a hoarse whirring like that of the English night-jar beginning with a kind of croak. It sometimes breeds in the gardens, but in June, the usual breeding season, most of the birds leave the gardens and one does not see or hear anything of them for some time.

We are too far off the big jungles for the beautiful *Lyncornis Temminckii*, the "Tiptibau" of the Malays, but this bird is very common in many parts of Singapore, flying swiftly at night and uttering its plaintive cry, "Whit whū hōo," whence it takes its Malay name.

Kingfishers of four kinds inhabit the gardens, usually near the lakes. Of these *Alcedo ispida* is perhaps the commonest, a bird closely resembling the English Kingfisher but duller in colour. The brilliant little deep blue *A. meninting* is often to be seen perched on a bamboo shoot and darting into the water after fish; while the two larger kinds *Halcyon smyrnensis*, a light blue bird with a large red beak, and *H. pileata*, a brilliant deep blue bird with a white breast, seem to be less attached to the water, and are often to be seen at some distance from it. The Malays call the kingfishers "Raja hudang," literally "King of the prawns."

The common bee-eater, (*Merops sumatranus*), may almost be classed as a migrant, appearing at times most abundantly and then disappearing for months. It is called "Berik-Berik" by the Malays, who believe that it flies on its back in the evening. It

is often to be seen sitting on bamboos or the tops of small trees, whence it darts off in pursuit of insects. When burning scrub, the birds often come to catch the grasshoppers driven out by the fire, and at the first puff of smoke, they would hasten to take up their position on the nearest small tree and commence dashing into the smoke after their prey. The bee-eater nests in sandy places, making burrows in the ground, the sandpits on the Serangoon Road being a favourite resort.

The green bee-eater, *Merops philippinensis*, is less common than the *M. sumatranus*, but may be seen from time to time. It is distinguished easily by the absence of the chestnut colour on the head and neck of the commoner kind.

For some reason Hornbills are very seldom to be seen in Singapore, although there is a good deal of suitable jungle for them, for they are strictly forest birds living on the wild nutmegs, and other large jungle fruits. The small black and white hornbill, *Anthracoceros convexus*, ("Burog Enggang,") I have once or twice seen on Bukit Timah. I had one in captivity for some time which became very tame and was wonderfully clever in catching bits of bread thrown at it. It used to be very quick at catching sparrows if they imprudently flew through its cage. When caught it would crush them with its powerful beak and throwing them up in the air catch and swallow them. The only Hornbills I have ever seen in the gardens were a pair of Rhinoceros Hornbills (*Buceros rhinoceros*), which appeared to be resting in one of the big trees in the garden in the course of a long flight. This kind is the largest of our hornbills; it is black and white, with a very large beak, the casque of which is turned up at the end. The beak and casque are naturally white, but during life are coloured orange and red. This is done by the bird itself, which every morning rubs its beak against a gland beneath its tail whence exudes an orange-red liquid which colours the beak. When a caged bird is unwell this gland produces but little of the colouring matter, so that the beak looks pale coloured, and gives a good clue to the state of the bird's health.

Parrots and paroquets are not as abundant in the matter of species as is naturally expected in a tropical country, but the few species we have are not as a rule deficient in point of numbers. The common long tailed paroquet, *Paloeornis longicauda*

often visits the gardens in flocks, and still oftener flies over, uttering piercing squeaks. It usually flies very high and fast, but if it finds a tree with fruit which suits it, will settle there and remain climbing about among the branches for a long time. It evidently prefers dry seeds to juicy fruits, being especially fond of those of the Mahang-trees (*Macaranga*) and the "Pagar Anak" (*Ixonanthes*). Although its pink face, red beak, and blue tailfeathers contrasted with its green body are very showy when looked at close, it is wonderful how inconspicuous the birds are when creeping about among the leaves of a tree. This paroquet is called "Bayan."

Woodpeckers, "Burong Gelatu" of the Malays, are not uncommon, though less so in localities where there is much dead timber left standing. One of the commonest is *Jungipicus variegatus*, a little brown and white banded bird, commonly to be seen running about on the Waringin and on other grey-barked trees, where its colour makes it very inconspicuous. The great black woodpecker (*Thriponax Javanensis*) is a rare visitant; a pair remained for some time in a large Jelutong tree.

But the most interesting of these birds is the curious red *Micropternus brachyurus*. This bird always makes its nest in that of one of the tree-ants. The ants form a large black nest in a tree and the bird, which feeds largely on them, digs out a burrow and puts its own nest therein. It has been stated that these ants do not bite, but this is not the case; though small they are most vicious. The woodpecker nested for some years in a tree (*Mimusops Elengi*), close to my house, but the ant's nest collapsed one year, and the birds finding it gone on their return in the breeding season, went away.

The absence of crows from Singapore seems very strange, especially to visitors from India and Ceylon, where these birds are so much in evidence. The common crow (*Corvus splendens*) I have not seen south of Pekan, where it is common. The big jungle-crow, as large as a raven (*C. macrorhynca*), passes over the gardens singly or in pairs once or twice a year, and for two or three years several remained for some months in and round the gardens, and I have little doubt that they nested in the vicinity, as there were as many as five together at times. Their cry is like the cawing of an English rook, often finishing up with a mewling like a cat. The native name for the bird is "Gagak," or

"Dendang."

They are very fond of the fruits of the wild red pumpkin (*Trichosanthes*) whence the Malay name "Timun Dendang," Crow's pumpkin.

The racket-tailed Drongo (*Dissemurus platurus* Veill), the "chawi-chawi" or "chichawi" of Malays, is very common in the garden jungle, and as it remains with us all the year I suspect it breeds there, but have not found the nest. Its black plumage and the long racket-shaped tail feathers which it bears in the breeding season make it very conspicuous. The tail-feathers are supposed by the Malays to be due to two *sumpitan* darts, which some hunter shot into the bird, and which it has had to carry ever since. The Drongo has a wonderful variety of notes, and also imitates other birds very well, generally commencing to sing in the evening.

Of cuckoos, several kinds appear from time to time. The little grey cuckoo *Cacomantis threnodes* keeps up its wearying song all night, and has got the name of the "Brain fever bird" here. Its notes consist of whistles in a descending scale and are very plaintive. The Malays call it "Tinggal anak," the deserted child, and say that as the old bird lays its egg in another bird's nest and abandons it, the young bird bewails its hard lot for the rest of its life. Though it is often to be heard it is by no means conspicuous, concealing itself in a thick tree, whence it keeps up its mournful song.

The Malay Coucal, commonly known as the Crow-pheasant (*Centrococcyx bengalensis*) sometimes appears in the long grass in damp spots. Its flight and red wings often deceive a stranger into the idea that it is a real pheasant. Its cry consists of a "hoop-hoop-hoop," followed by a "cuckoo-cuckoo," very harsh and mechanical in sound.

The quaint tufted cuckoo, (*Coccyzus coromandus*) grey with red wings, a long tail and a tuft on its head, has appeared in the gardens. It is rather shy and hides itself in the trees.

The black Cuckoo (*Surniculus lugubris*) is also to be seen at times. It is interesting inasmuch as it mimics the Drongo, closely resembling it in form and colour, though without the racket feathers, and owing to this resemblance it is able to get its eggs into the Drongo's nest for the unsuspecting owners to hatch.

Swallows and swifts are abundant here and are collectively known to the Malays as "Laiang." The common swallow (*Hirundo gutturalis*) very closely resembles, and indeed is hardly distinct from the English swallow *H. rustica*. It is rather smaller, with the under parts whiter, and the black collar round its throat is incomplete, but the common form in the gardens is really intermediate between the two, for while it has all the other characters of the Eastern swallow, *H. gutturalis*, the collar is quite complete and very broad. It remains with us all the year, but I have not found its nest. We are accustomed in England to foretell rain by the low flight of the swallows. Here, however, this is no clue, the height at which the swallows fly depending on the insects on which it feeds, which do not keep near the earth before rain, as they do in England. The termites frequently swarm during wet weather, especially indeed during heavy rain, and the swallows and swifts, with many other birds, and dragonflies, come to feast on them. As the swarm gradually rises into the air the birds rise with them, and fly high or low according as the termites do. The Palm-swift (*Tachyornis infumatus*) is usually very plentiful, a most graceful and quick little bird, entirely black in colour. The nest, which is very small and cup-shaped, is fastened to the under-side of the leaf of a fan palm in such a manner that the little bird has to sit upon it with its breast pressed closely to the leaf, its body being almost parallel to it. The eggs are very small and pure white. The Edible-nest swift (*Collocalia Linchi*) occasionally appears in the gardens as a visitant, but of course does not nest anywhere near Singapore.

The large swift (*Cypselus subfurcatus*) a black bird, with a white bar above the tail, is very common and conspicuous. It nests beneath verandahs and such places, making a colony of nests of mud, grass, bents, feathers, etc., in a very untidy manner. It is a very large and rapid bird, but less so than the great spine-tailed swifts (*Chatura*) which may from time to time be seen flying over the gardens, usually at a great height; they are abundant at times on Bukit Timah, where they can be seen dashing past the bungalow often in great numbers. These spine-tailed swifts are probably the fastest flyers in the world.

The Roller (*Eurystomus orientalis*) is often to be seen sitting on the topmost branches of the trees, and with its deep blue

plumage and bright red beak is a most attractive bird when seen close. At a distance in form and flight it may be mistaken for the Tiong (*Eulabes*), the dark colour of its plumage appearing black and the light blue spots on its wings resembling the white ones in the same part of the Tiong. Indeed it seems to me that it mimics the latter more powerful and aggressive bird, and perhaps may thus sometimes escape the attacks of hawks, to which, however, it not rarely falls a prey on account of its bold habit of sitting in the most conspicuous positions.

The Orioles are represented by the beautiful black and yellow "Chindrawaseh" of the Malays (*Oriolus indicus*), which is often kept in cages by the natives, especially in Java, where it is more common than here. It is only a casual visitor, and is usually to be seen about Waringin trees when the fruit is ripe.

The Tiong (*Eulabes javanensis*) usually visits us in small flocks. It is rather a noisy aggressive bird, especially when a number collect in the jungle where there is a tiger or pig, when all flock together in the adjoining trees and make a great noise at the reposing animal. The Tiong is often kept in cages by the natives, and learns to talk very well, but it is rather delicate and apt to die suddenly. The natives say that it always expires at the sight of blood. Some years ago when a number of these birds were being kept in Malacca, an order was sent round that all Tiongs were to be set free, apparently under the impression that they were insect-eaters, and would benefit the place by being released. The district presently abounded in these birds, which for some time did not go away from the spots where they were set free. Unfortunately the Tiong feeds exclusively on fruit, so that they produced no benefit to the crops, but probably rather the reverse. Its ordinary cry is Tiong-Tiong, whence its Malay name but it also makes a low gurgling sound like distant human voices.

The Glossy Starling (*Ca'ornis chalybeius*) is most abundant at times, flying in large flocks and wheeling in masses like the English Starling. It is however a more beautiful bird, being of a very deep green colour with crimson eyes. It feeds entirely on fruits, being especially fond of those of the Waringin. It is known as the "Perling" by the Malays.

The Ant-thrushes or Pittas are regular visitants, but do not stay long, and I doubt if they breed here. The only one I

have seen in the gardens is *Pitta moluccensis*, as beautiful a bird as any in the group. The head is gray, with a black streak near the eye, the back of a dark green colour, the lower part and wing coverts of a lovely metallic light blue, and the breast buff with a crimson red patch beneath the tail.

Like all ant-thrushes it remains concealed in the bushes the whole day, usually hopping about the ground. If the thicket is a small one the bird is easily approached, as it will not leave the shade unless absolutely compelled; but just after dark it begins its loud call, and will come up quite close, even from a considerable distance, if it is imitated. During the night it is silent, but commences to call again just before sunrise, ceasing when the sun is up. It probably feeds on insects, but other species such as *P. boschii*, which lives about limestone rocks, feed on snails, cracking the shells as a missel-thrush does in England. Piles of the shells broken by the pittas can often be seen round the limestone rocks, in Selangor, Pahang, and elsewhere. I have however never seen broken shells in the haunts of *P. moluccensis*.

The bird best known to the residents here is the so-called black and white robin (*Copsychas saularis*), the "Murai" of the natives. Its habit of hopping on the grass with its tail erect suggesting that of the English robin, is probably the origin of its popular name, though in other respects it resembles a blackbird, to which bird it is more nearly allied. It nests commonly in the gardens in May. The nest resembles that of a blackbird. It is placed in the fork of a tree low down, or in a palm, between the leaf stalk and the stem, or sometimes on a beam beneath the verandah of a house. It contains two eggs, somewhat suggesting in form and colour those of a missel thrush, bluish grey with dark red blotches, especially numerous at the broad end.

The bird sings very sweetly just before sundown, sometimes perching on the top of a high spray and pouring forth a volume of melody like that of an English thrush. In the evening it emerges from the shade of the bushes where it has been concealed during the hotter part of the day and hops upon the grass-plots like a blackbird in search of worms and insects. It is indeed a most useful insect-destroyer, attacking and devouring even large caterpillars. I once saw one pecking at an unfortunate young mouse, which had apparently been somehow washed out of its nest by a heavy

storm of rain. On another occasion I saw one furiously attack a squirrel (*Nanosciurus exilis*) which was climbing on a tree and knock it off the branch to the ground. Again the squirrel attempted to climb up, and again it was struck to the ground; even then the *Murai* pursued it till it fled to refuge in the bushes, still pursued by the bird.

In courting the female, the cock birds hop on the grass with their wings trailing on the ground, to show off the contrast of their black and white plumage, and then dash at one another, till the stronger bird has driven its rivals away.

It is often said that tropical birds have no song, but no one who has listened to the melody of the so-called Burmese nightingale (*Cittocincla macrura*) "*Murai gila*" will agree to this. This beautiful songster frequents the thicker parts of the woods, often in some number, at certain times of the year, and though it seldom leaves the woods, it may be drawn to the edge by whistling the first few bars of its song, when it will come quite close and pour forth its melody several times in succession. If one bird sings in the wood, others will be sure to come and sing also. Unfortunately it does not stay long with us, being apparently a migrant. The song is as full and rich as that of a nightingale, which indeed it somewhat resembles. The bird itself resembles the *Murai*, but is more slender, with a long tail and a red breast.

Perhaps our commonest bird is the Bulbul. (*Pycnonotus analis*). "*Merebah*." It nests in March every year, in the bushes, often in quite conspicuous places, sometimes putting the nest on the leaf of a fan palm, close to the attachment of the blade and stalk. The nest is made of bents and roots and is quite a slight structure as a rule. It lays two eggs, thickly spotted with dark red all over but especially at the broad end, where there is often a ring of darker spots. It is an omnivorous bird, devouring small fruits of all kinds, especially those of the Waringin (*Ficus Benjamina*) and the cinnamons, and is very troublesome when the fruit is wanted for any purpose, often clearing the whole tree and disseminating seeds in all kinds of places, where young trees come up in the most unexpected manner. It, however, atones for the trouble it gives to some extent by destroying a good many injurious insects such as grasshoppers and termites. If a large hawk appears in the gardens it is the bulbuls which flock together to mob and annoy it. It is rather curious to see a male

courting the female. Erecting the tuft on the top of its head and holding its wings up in the air so that they are back to back it hops solemnly upon the ground to the admiration of its mate. At the courting season the topknot attains its full growth, and the feathers beneath the tail are of a brilliant yellow, so that it has rather an attractive appearance.

The large olive Bulbul (*Pycnonotus plumosus*) the "Merebah Rimbah" of the Malays, a plain brown bird with yellowish patches on its wings, is not rare in the gardens, generally frequenting the thicker jungles. I found a nest close to the gardens in some ferns a couple of feet from the ground. There were two young birds in it which the old birds were feeding on grasshoppers.

The Meadow-pipit (*Anthus Malaccensis*) is very common in grassy spots, and also nests here. I have seen birds collecting bits of grass in June, evidently for a nest, and once found one in a depression in the ground with a young bird in it.

The Wagtail (*Motacilla viridis*) is only a visitant, though appearing in numbers at certain seasons. It does not appear to breed here.

The little brown shrike (*Lanius cristatus*) is a fairly common visitor. It can often be seen perched on a twig in open country or on the telegraph wires, whence it darts on passing insects.

The Green Tody (*Calyptomena viridis*), a lovely little green bird, with something of the appearance of a small parrot, may at times be seen in the denser wooded spots, quickly passing from thicket to thicket, and concealing itself among the green leaves. I have seen it in Selangor darting about to catch white ants when swarming.

A very pretty little bird, resembling a goldfinch in the bright yellow and black of its plumage and its habits, is *Ægithina tiphia*. It frequents the Waringin trees especially, and may often be seen in pairs seeking insects among the branches. It nests in the gardens, as I have seen young birds unable to fly there, but I never found its nest.

The Tailor-bird, *Orthotomus ruficeps* is very common in the fern and open thickets and may often be heard twittering as it creeps about in search of insects. It has much the habits of the English Wren. The male is brown with a bright red head, the female is entirely brown.

Several of the *Munias* are to be seen about the gardens, but the commonest is the little *Munia Maya* "Pipit kapala putih," the white headed finch, which is most abundant, and flocks of twenty or thirty are frequently to be seen on the grass plots. It makes a domed nest of bents in a bush and lays a number of small white eggs.

The Java sparrow (*Amadina oryzivora*) is evidently not a native here. It is abundant in the gardens, where it nests, and in other places near town, but is never to be seen any distance from this part of Singapore.

The tree sparrow (*Passer montanus*) is also a town bird, and never seems to go far away from civilization. It nests in houses and is often a great nuisance, putting its nests in all kinds of odd corners, blocking waterpipes, and even sometimes utilising rolled up chicks as a suitable locality, so that when the chicks are lowered the whole nest falls to the ground. The nest and eggs resemble closely those of the House sparrow, but the eggs are greyer in colour.

The Sunbirds, often erroneously called Humming-birds by residents, are often to be seen, especially fluttering about the Hibiscus flowers seeking for insects. The commonest is *Anthothreptes Malaccensis*, the male of which is a lovely little thing, with its head and back of a beautiful metallic purple, a brown throat and yellow body. The female is duller, mostly brown in colour. It makes a hanging nest on the end of a bough, about six inches long, of bark fibres and nests of caterpillars, and lined with feathers. The nest is pear-shaped with a hole at the side, and a kind of little eave is thrown out over it to keep the rain from getting into the nest. The eggs are three or four in number, small and rather a long oval in shape, light grey in colour.

Another charming little thing is *Dicaeum cruentatum*, a very small brown bird, with a scarlet head, which appears flitting about in the shrubberies from time to time.

A less common visitor is *Aethopyga Siparajah*, a very small scarlet and black kind, very showy. It seems to be commoner near the sea coast, where I have seen it fluttering about the scarlet flowers of the beautiful tree *Lumnitzera coccinea*.

The *Arachnotheras*, or spider hunters, are duller coloured birds, conspicuous from their very long curved beaks. *A. modesta* haunts the large-leaved gingers, and *Heliconias* in the gardens,

and I found a nest made of skeletons of leaves and fibres and bast, apparently from the lining of an squirrel's nest, and bark, between two leaves of these plants, which had been pegged together by bits of stick, by some person. One little bird was sitting on the nest nearly fully fledged. I have seen one of these spider hunters pursuing a very large cricket in the gardens, which I have no doubt it would have killed had it not been alarmed at the sight of me, though the cricket had exceedingly powerful jaws and gave me a severe bite when I caught it.

Of pigeons, four kinds regularly haunt the gardens. The well known green pigeon, *Osmatreron vernans*, the "Punei," often comes in small flocks when the berry bearing trees and especially the figs are in fruit. I have seen pigeons' nests in the trees which may belong to this bird, which breeds regularly at Changi. The nest is like that of most pigeons, a little mass of small sticks on which one or two white eggs are laid. It is usually placed in a most conspicuous position in a small tree. The ground pigeon, *Chalcophaps aenea* "Punei tana," "Burong Dekut," "Serango" or "Lembuk" of the Malays) may often be seen about the grounds. Its dark green wings, and puce-coloured head and breast make it a very pretty bird, and it is popular as a pet among the Malays. Its peculiar habit of living almost exclusively on the ground, and its boldness, make it an easy prey to the bird-catcher, and it is caught in the following way. The fowler conceals himself in a hut of leaves or ferns, provided with a cow's horn and a long stick with a loop of string at the end. Having sprinkled some rice on the ground in front of the hut, he blows the horn so as to produce the cry "hoop, hoop" of the pigeon. The birds come, and settling down before the hut begin to eat the corn, while the bird catcher nooses them one by one with the aid of the stick and string.

The two turtledoves "Tukukur," *Turtur tigrinus* and *Geopelia striata* are very common. The latter, which is the smaller bird, is kept as a pet constantly by Malays, who say that it prevents fire occurring in a house and also wards off evil spirits. In selecting one for this purpose much attention is paid to the sound of its cooing, and to the number of scales it has on its toes. These turtledoves are captured by birdlime in the following way. A stick about two feet long is smeared at one end with

the latex of the Getah Terap tree, and to the other end a decoy bird is attached by a string, the stick is fixed horizontally in a tree, and the fowler, concealing himself, waits till a wild bird attracted by the cooings of the tame one settles on the birdlime and is caught.

Two kinds of quails inhabit the gardens, viz., the little Blue breasted Quail (*Excalfactoria chinensis*) and the larger Bustard Quail (*Turnix plumbeipes*). Both, I have reason to believe, breed in the gardens, but the only eggs I have found belong to the latter. It makes no nest, but deposits its four conical eggs on the ground, point to point like a plover, among long grass or sugar cane. The eggs are olive brown with darker spots. Quails are called "Puyuh" by the Malays, who catch them in an ingenious trap. This consists of a small rattan cage widest in front with vertical bars. It is just big enough to contain a cock quail, which is put inside. In front of the fore part of the cage is a square of fine net in a bamboo frame, which is attached to the upper part of the cage on a transverse bar; on the upper bar of the net at each end is a loose iron ring. When the trap is set, the net is raised and kept in position by the aid of a thin piece of string and a peg, and the rings are pushed on to the ends of the upper bar. When a quail, induced by the challenge of the caged bird, runs up to the bars of the cage to fight with it, it touches the string which releases the peg and the net falls over the front of the cage, enclosing it. As it does so the rings drop off the upper bar, and sliding down a vertical bar fall in such a position that they hold not only the lower horizontal bar of the net but a portion of the projecting bar at the bottom of the cage, thus holding the quail tight between the net and the cage. It is then taken out and put in a bag. The quail catcher also carries a kind of large spatula of wood with which he beats the grass to drive the quails towards his trap.

Among wading birds the Golden Plover (*Charadrius fulvus*) and the Snipe (*Gallinago sthenura*) are often to be seen in swampy parts of the garden in the season, and the Snippet (*Tringoides hypoleucus*) is always to be seen around the lakes at the same time, but none of these birds nest here. The Water cock (*Gallicrex cristatus*) haunts the wet grassy spots in the Economic Garden, and may often be heard uttering its curious crowing cry in the evening. The white breasted Water-hen (*Erythra*

phoenicura) with its grey back, white breast, and red rump, is a permanent resident, running about among the flowerbeds and bushes in the evening but lying quiet all the day. I have several times had these birds brought to me which had flown into houses at night, apparently dazzled by the lights, but it rarely lives long in confinement. The banded rail (*Hypotoenidia striata*) haunts thickets in wet spots and lies very close unless disturbed by dogs. The small white egret, which is not so common in Singapore as in most parts of the Peninsula, has visited the gardens, where one remained by the lakes for several days a few years ago, and the little blue Heron, (*Butorides javanicus*), so common in the mangrove swamps comes from time to time to the lakes where it may be seen fishing. The only visitant of the duck tribe is the charming little Goose-Teal, (*Nettopus coromandelianus*) This is mentioned as visiting the gardens lakes many years ago by Mr. Davison in the "Ibis." A pair appeared here in January (1898) and remained on the lake for some weeks. It is a very common bird in India, but by no means so in the Malay Peninsula.

This by no means exhausts the list of birds to be seen in the gardens from time to time by careful observer; but it serves to give an idea of the abundance of bird-life in the neighbourhood of the London of the East.

H. N. Ridley.